NEWSMAKER INTERVIEW: DAVID MORRISON

Into the Stretch for Science's Point Man on Doomsday

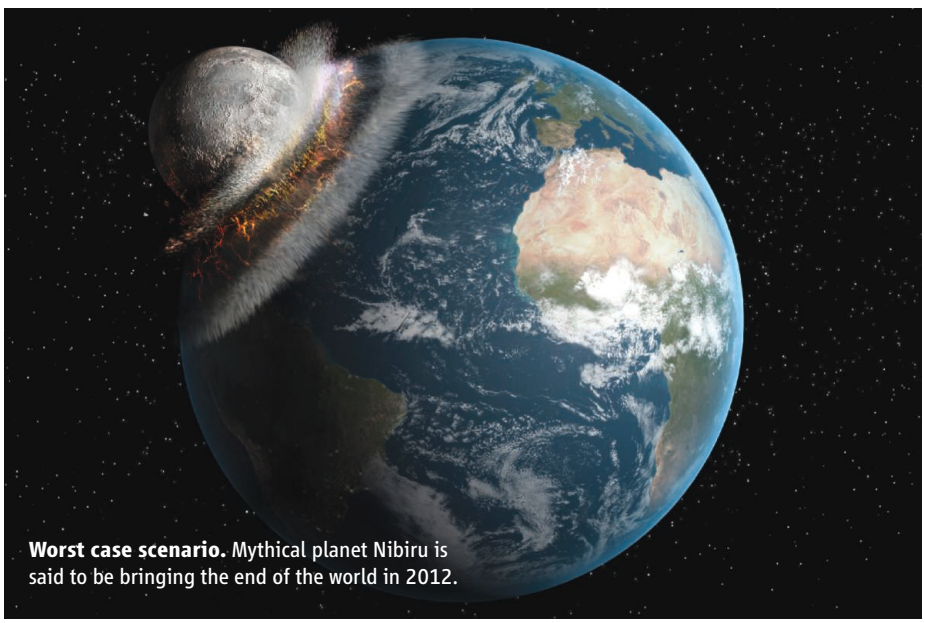
The Internet is roiling with warnings of doom from the sky. "Comet Elenin—Messenger of Destruction?" one Web site exclaims, breathlessly recounting rumors that alien beings are steering a cosmic ice ball our way to knock Earth off its axis. Worse still, other sites assure us, a rogue planet called Nibiru is barreling through space to trigger the end of the world on 21 December 2012.

Elenin is real enough, scheduled to make a distant flyby of Earth in mid-October. Nibiru, astronomers say, exists only in the fears of credulous denizens of the Web. But one thing is certain: As the scientific community's unofficial defender of reason against the onslaught of such "cosmophobia," planetary scientist David Morrison sees a long year or so ahead for him.

"We live in nervous times," Morrison explains. "Nowadays, almost anything that comes up in astronomy—free-floating planets, the Andromeda galaxy heading here—prompts people to write to me and ask whether it's a danger. So many talk about their pervasive fear, especially children. I don't see anything to do but keep on [responding]. I hope after 21 December 2012 it will end, and I can stop."

Morrison didn't intend to become science's spokesperson on looming cosmic catastrophes. Back in 2007, he was director of the NASA Lunar Science Institute (NLSI) working out of Ames Research Center at Moffett Field, California. He'd had a hand in founding the field of astrobiology after a varied career in planetary science and as a senior NASA manager. As a sideline at NLSI, he answered questions from curious laypeople on NASA's Ask an Astrobiologist Web page (http://astrobiology.nasa.gov/ask-an-astrobiologist/intro/). "It's important to answer questions from the public," he says, "and I enjoy it."

Then the 2012 questions started coming in. Was the world going to end on 21 December 2012, when the Maya calendar ends? That was the first Morrison had heard about it, but on investigation, he found a long and convoluted history for the basic storyline. According to many doomsayers, a planet the ancient Sumerians called Nibiru swings by Earth every 3600 years, and this time it would soon wreak all manner of death and destruction on the home planet. The story seemed to have gotten started in the 1970s, when a fabulist named Zecharia Sitchin claimed in several books that he had found Sumerian texts identifying an unseen planet named Nibiru that orbits the sun every 3600 years.



Worst case scenario. Mythical planet Nibiru is said to be bringing the end of the world in 2012.

Then there was the self-declared psychic Nancy Lieder channeling aliens in the 1990s. She wrote on her Web site ZetaTalk that her contacts in another planetary system were warning her that a "Planet X" that became identified with Nibiru would endanger Earth in May 2003. That didn't happen, but somehow—Morrison can't say exactly how—Nibiru's predicted arrival was postponed to the winter solstice of 2012 to coincide with the supposed end of the Maya calendar and all its apocalyptic trappings. This stew of fringe science came to a heavy boil, with hundreds of books, movies, and TV shows for sale on Amazon, hundreds if not thousands of videos on YouTube, and about 1.5 million hits from a Google search for Nibiru 2012.

Q&A man. David Morrison answers questions on coming cataclysms.

Starting in 2007, questions about Nibiru or loosely related cosmic catastrophes at first came in to Ask an Astrobiologist once a week, then once a day, and eventually one every few hours. In posting some 400 answers to more than 5000 questions about 2012, Morrison invokes his golden rule for questioners. As he writes in his online Questions and Answers: "If you will just use common sense I am sure you can recognize the lies." Then to help common sense along, he lays out "what I as a scientist think is factually, scientifically true."

Asked to prove that Nibiru does not exist, Morrison points out that hundreds of thousands of professional and amateur astronomers would have seen the rogue planet by now. "You just can't hide a planet on its way to the inner solar system!" he has written. "To an astronomer, persistent claims about a planet that is 'nearby' but 'invisible' are just plain silly." And even if Nibiru had its own invisibility cloak, its gravity would have noticeably disturbed the orbits of the inner planets during previous passages. As to allegations that governments, astronomers, and he in particular are covering it all up, Morrison responds that he knows astronomers and nothing could keep 100,000 of them quiet.

And yet, no matter how many scientific facts he dispensed in rebuttal, the questions kept coming. Some were "touching and shocking," Morrison says. In one month alone, he received questions from a woman planning to kill herself and her two children before Nibiru arrived, a teenager threatening suicide over its approach, and an older woman asking when she should euthanize her pet dog to save it from suffering in the 2012 apocalypse. Morrison notes in an e-mail that he is "not competent to provide psychological advice. I am not that kind of 'Dr.' " But the

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disturbing trend spurred him into a more vigorous response. On 2 November 2009—with encouragement from NASA headquarters—Morrison made a 4-minute video in one take without a script. He posted it on the Web the next day (http://www.vimeo.com/7463829).

In the video, Morrison supplies damning scientific details about the nonexistence of Nibiru and the impossibility of various cosmic catastrophes, such as flipping Earth on its poles. But he also addresses viewers directly with a soothing appeal to reason: "I want to take a chance to talk to some of you more directly. There is no threat to Earth in 2012. There is no danger. All of the talk about a doomsday is a big hoax perpetuated on the Internet and with people trying to make money. So, please, don't worry about it. … The simple fact is Nibiru does not exist. … It's not there. It's a no-show. … Don't worry about 2012 and enjoy 2013 when it comes."

In 2010, Morrison became half-time director of the SETI Institute's Carl Sagan Center in Mountain View, California, while remaining a senior scientist at NLSI. Meanwhile, he has continued to counter public fear of a space-borne nemesis. He answers online questions, writes magazine articles, delivers lectures, and gives interviews for 2012 documentaries in the role of the skeptical scientist.

For all his efforts, Morrison isn't sure how much he has accomplished. "I have no documented proof what I'm doing is doing much good," he says. His 4-minute video and videos of his lectures garner tens of thousands of views, but videos promoting 2012 get hundreds of thousands. Occasionally, parents will write to say that his video calmed their children's fears of 2012. "I've changed minds on some occasions," he says. But he worries that the hoax has revived a widespread fear of the cosmos that scientific progress once seemed to have tamped down for good. "This cosmophobia could be one of the worst long-term consequences of the 2012 doomsday hoax," he wrote in *Astronomy Beat*, "to make people fearful of astronomy and the universe."

"I admire what he's doing, but I don't know how he finds the time," says planetary scientist Donald Yeomans of NASA's Jet Propulsion Laboratory in Pasadena, California, where he, too, has been drawn into the 2012 and Elenin hoaxes. The comet, formerly a sideshow to the cataclysms predicted for 2012, now draws as many questions on Ask an Astrobiologist as Nibiru does; as it streaks toward closest approach to Earth, Internet mythmakers have begun casting it as a precursor of Nibiru or even Nibiru itself.

Yeomans urges more scientists to join the fight against such hysterical doom-mongering. "Most of the time we talk to other scientists and don't realize that the great mass of people are not trained in science and don't think the way we do," he says. "We've got a big education problem." **–RICHARD A. KERR**

SCIENTIFIC COMMUNITY

Mass Exodus Roils Brazilian Neuroscience Institute

A rebellion in the scientific ranks has created turmoil at Brazil's most famous brain research center, the Edmond and Lily Safra International Institute for Neuroscience of Natal (ELS-IINN). Since late July, 10 principal investigators have shut down their labs at the center, which opened its doors in 2005 under the direction of Miguel Nicolelis, a Brazilian-born neuroscientist based at Duke University in Durham, North Carolina. An ambitious scheme to build a world-class neuroscience institute in the country's impoverished northeastern region, ELS-IINN has garnered praise for its socially conscious mission to foster economic development and has been cited as an example of Brazil's burgeoning research enterprise (*Science*, 3 December 2010, p. 1306).

The defectors include one of the institute's co-founders, Sidarta Ribeiro, a former postdoctoral fellow with Nicolelis. In total, more than 100 people have walked out, Ribeiro says, including students, postdocs, and technicians. Frustrated by what they jointly describe in an e-mail to *Science* as "the sheer mismanagement of the IINN," the 10 principal investigators decided to form their own institute, to be directed by Ribeiro at the nearby Federal University of Rio Grande do Norte. The Ministry of Education will provide start-up funds for the new institute. Previously, the researchers all had appointments at the Federal University, which paid their salaries and part of their operational costs, but maintained laboratories at ELS-IINN.

That situation became untenable because of disagreements over how the institute was run. In their e-mail, the departed group of scientists cites grievances including difficulties arranging permission for visiting scholars, access to common facilities being blocked without notice, and the dismissal of students and technicians without justification, prior notice, or replacement. "The rules were arbitrary, unclear, and created many difficulties for our academic activities, [e]specially teaching and researching," they write.

Moreover, decisions that affected the day-to-day running of the labs often had to go through the private foundation in São Paulo that administers ELS-IINN, or through Nicolelis. "We believe that local problems need to be solved by local scientists," Ribeiro says.

Nicolelis insists the departures will not have a serious impact on ELS-IINN, noting that seven principal investigators remain and the institute is actively recruiting five more. Most of those who left, he adds, work outside the institute's core focus, which includes work on treatments for Parkinson's disease and spinal cord injuries.

"It's unfortunate, but it's their decision," Nicolelis says. He notes that the departees are mostly young Brazilian scientists who trained at public institutions in the United States and Europe. "They're not used to doing science in a private institute with regulations and norms. As a nonprofit organization in Brazil, we have to follow a lot of regulations," Nicolelis says, explaining that strict rules compliance is required by the various government ministries that allow the institute to operate. In exchange, recruits to ELS-IINN got 70% of their operational costs paid with private funds, access to equipment and technical support, plus R$500,000 (about $315,000) in start-up funds for their labs, an unheard-of perk in Brazil, Nicolelis says. "They were receiving things that no one in Brazil has ever received."

–GREG MILLER

Bulldozing ahead. Miguel Nicolelis says the departure of faculty won't derail plans to build a world-class neuroscience institute in northeastern Brazil.

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